which the retina is affected during the *passage* of a comet behind a wire, ought, according to my opinion, to disappear entirely if we employ the second method, in which the comet is bisected by a wire, and *remains* in that state during an interval of time, which is enormously longer than that of a passage.

" My opinion, then, is, that better results will be obtained by making use of the second method of observation ; that which is, in fact, practised by M. Otto Struve himself. Now, it happens that, in the case of the comet of D'Arrest, the only instrument which has been applied in this way is the heliometer of Königsberg. It is not, however, the heliometer which I extol in so far as regards the comet, but rather the method above referred to. With respect to the heliometer in particular, it may be inferred that if the images are sufficiently bright to be observable without much difficulty, the results may be better than those which would be obtained by employing the first method even with refractors of sufficient power. Now, in the case of the comet of D'Arrest, the heliometer observations will be found to be as concordant as the others; the only difference being, that the observer was compelled to abandon his observations eight days earlier than Mr. Challis at Cambridge.

" If, now, we were to apply the second method, making use of a refracting telescope of the same power as the Northumberland refractor, the observations would unquestionably be more precise than those obtainable by means of refractors of the same dimensions, but fitted with divided object-glasses, since the intensities of the images are in the ratio of 2 to 1. Thus, let it be well understood, it is not the heliometer which I prefer, but the second method of observing comets.

" I regret much that I am unable to lay before you the grounds of the reasoning employed in my Memoir; possibly you might find that I have somewhat exaggerated the inconveniencies of the first method of observation. There is much to be said upon this subject, and, unfortunately, the arguments do not admit of being reduced to figures, which would tend very much to simplify the difficulties.

" Excuse, I pray you, this long digression, which I should not have thought of placing before your eyes, as too uninstructive, if I had not been led to it by the reading of the *Monthly Notices*.

" *Paris, April* 28, 1853."

On the Mechanical Imitation of Precession. By the Rev. Professor Powell, F.R.S., &c.

The actual mechanical exhibition of the composition of rotatory motion giving the physical explanation of the Precession of the Equinoxes has been attempted by more than one contrivance.

In the *Astronomical Notices*, vol. i. p. 43, appears a description of a machine of this kind by Mr. Atkinson, but so brief that it is difficult to collect what the principle of it was. It is also under-

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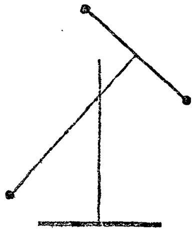
stood that another instrument was constructed by the Astronomer Royal; but of this it does not appear that any description has been published.

In the present instance, before the author was aware of either of these contrivances, he had constructed one which he believes exhibits the essential mechanical principle with greater simplicity than any previously devised.



It consists merely of a bar (loaded at its ends) capable of rotating freely about one end of an axis, which itself can turn about a point in its length, near the end carrying the bar, upon an horizontal axis capable of moving in azimuth round a vertical pillar. At the lower end of the first axis is a weight, which *rather more* than counterpoises the upper part; and when there is no rotation in the bar, simply brings the first axis down into a vertical position.

If this axis be held horizontally or obliquely, and a rotatory motion be given to the bar about it, on letting the axis go, the weight will no longer bring it down, nor alter its inclination at all, but will cause the whole to turn in azimuth, in a direction opposite to that of rotation.

Note on the Small Star near α Canis Minoris.

By Isaac Fletcher, Esq.

"In the Bedford Catalogue Captain Smyth* notes that the star *α Canis Minoris* is accompanied by a small companion of the eighth magnitude. The following is the result of the Captain's measures:—

1833·81 Pos. 85°·0; Dist. 145″.

"In 1848, Mr. Bond, of the Cambridge U.S. Observatory, announced that the small star was '*missing.*' In 1850 I saw and measured the position of the companion with ease, and estimated it as of the ninth magnitude. My measures gave this result:—

1850·17 Position 84° 19′.

"During the spring of this year I have looked most carefully for this small star with my 6-foot achromatic; but I have never obtained a trace of its existence.

"This star is undoubtedly a variable one of the most interesting description, and as such I beg to recommend it to those observers whose attention is directed to this class of phenomena.

"*Tarn Bank, Cockermouth,* 1853, *May* 5."

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* Those Fellows of the Society who are not already cognizant of the fact, will be gratified to learn, that since Mr. Fletcher's note was written, the distinguished officer, to whose well-known work on astronomy allusion is here made, has been promoted to the rank of rear-admiral.

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